REMARKS

Claim 31 has been amended. Claims 1-30 were previously cancelled. Claims 43 and 44 have been added. Claims 31--44 are currently pending in this application.

The title has been amended to reflect the subject matter of the presently pending claims.

Claims 31-42 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 79-96 of co-pending Application No. 10/230,327 to Moore et al. Application No. 10/230,327 has been allowed. Pursuant to the Examiner's request, a Terminal Disclaimer complying with 37 C.F.R. 1.321(c) is being filed concurrently with this Amendment. Accordingly, Applicant respectfully requests the withdrawal of this rejection.

Claims 31-42 further stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-25 of co-pending Application No. 10/225,190 to Moore et al. Application No. No. 10/225,190 is still pending as of the date of this Amendment. Since this is a provisional rejection and the claims of the '190 application may change, a terminal disclaimer is not being filed at this time. If needed, one will be filed later.

Claims 31-34, 37, and 39 stand rejected under 35 U.S.C. § 102 as being anticipated by Ovshinsky, US Reissued Patent No. 37,259 (Ovshinsky). This rejection is respectfully traversed.

Amended independent claim 31 recites a "non-volatile resistance variable device" comprising, *inter alia*, "the second electrode and resistance variable chalcogenide comprising material operatively connecting at an interface, the chalcogenide comprising material having a first region which is displaced from the interface at least by a chalcogenide material interface region having a higher content of "A" than the first region,

and approximately no metal chalcogenide agglomerations at the interface." Ovshinsky, however, is silent about a lack of metal chalcogenide agglomerations at an interface between an electrode and a region of a chalcogenide comprising material. For at least these reasons, withdrawal of this rejection is respectfully requested.

Claims 34, 36, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ovshinsky. This rejection is respectfully traversed.

In order for a reference to render a claim obvious, the reference must teach or suggest all the claim limitations. M.P.E.P., eight edition § 2142 (2001). As noted above, Ovshinsky does not teach or suggest all limitations of amended independent claim 31. For at least these reasons, withdrawal of this rejection is respectfully requested.

Claims 35 and 42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ovshinsky in view of Kozicki et al, US Patent No. 5,716,115 (Kozicki). This rejection is respectfully traversed.

Neither Ovshinsky nor Kozicki, even when considered in combination, disclose, teach or suggest a structure as recited by any of the presently pending claims. As noted above, Ovshinsky does not teach or suggest all limitations of amended independent claim 31. Kozicki does not supplement the deficiencies of Ovshinsky. Particularly, Kozicki is silent about "the second electrode and resistance variable chalcogenide comprising material operatively connecting at an interface, the chalcogenide comprising material having a first region which is displaced from the interface at least by a chalcogenide material interface region having a higher content of "A" than the first region, and approximately no metal chalcogenide agglomerations at the interface," as recited by amended independent claim 31.

As discussed in the present specification, prior art devices suffer from metal chalcogenide agglomerations on the surface of the chalcogenide comprising material. For

example, devices having a germanium selenide layer with silver ions diffused therein suffer from silver selenide agglomerations on the surface of the germanium selenide layer. Specifically, "as the silver doping/diffusion into the chalcogenide material approaches the maximum or saturation, some Ag_2Se was discovered to form at the surface and remain there as opposed to diffusing into the glass. Further, the surface Ag_2Se was typically in the form of semicircular nodules or bumps anywhere from 50 Angstroms to 20 microns across." Specification at page 3. Neither Ovshinsky nor Kozicki recognize this problem.

Moreover, a *prima facie* case of obviousness requires the existence of some objective motivation or suggestion to combine the references. M.P.E.P., eight edition § 2142 (2001). Here, Applicants respectfully submit that the suggestion or motivation to combine the cited references is only the result of the improper use of hindsight. Ovshinsky's device includes one or more layers of memory material, which includes at least one chalcogen element. Ovshinsky at col. 8, line 66- col. 9, line 3. Ovshinsky teaches that "compositional modification" (providing layers of compositionally different memory material, e.g., a first TeGeSb alloy and a second TeGeSb alloy) is used to minimize drift in the set resistance value. Ovshinsky at col. 12, lines 20-25. Further, Ovshinsky teaches that the basis for the operation of Ovshinky's device is the effect of an applied voltage on the atomic structure of the memory material, specifically, switching between crystalline and amorphous states. Accordingly, Ovshinsky's memory material does not require a metal. Ovshinsky at col. 8, line 1- col. 10, line 24.

Kozicki's device, on the other hand, requires and is dependent upon an ion conductor containing a metal. Kozicki's device functions by the formation of a metal dendrite within the ion conductor. Kozicki at col. 5, lines 13-66. Kozicki is silent about Kozicki's device "drifting" from its original set value. As Ovshinsky and Kozicki teach very different devices, there is no motivation to combine the teachings of these references. For at least these reasons, withdrawal of this rejection is respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated: January 19, 2005

Respectfully submitted,

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